



amdt#B

SEQUENCE LISTING

<110> Khan, Nisar A.  
Benner, Robert

<120> Gene regulator

<130> 2183-5223US

<140> 10/028,075

<141> 2001-12-21

<150> EP 01203748.7

<151> 2001-10-04

<160> 175

<170> PatentIn Ver. 2.1

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<210> 25  
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<210> 27  
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<210> 29

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<400> 29

Val Leu Pro Ala Leu Pro Gln

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<210> 30

<211> 7

<212> PRT

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Val Leu Ala Ala Leu Pro Gln

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5

<210> 31

<211> 7

<212> PRT

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<400> 31

Val Leu Pro Ala Leu Pro Ala

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<210> 32

<211> 7

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Gly Val Leu Pro Ala Leu Pro



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<400> 33  
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<210> 34  
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 Ser Cys Gln Cys Ala Leu  
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<210> 36  
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Tyr Cys Pro Thr  
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<210> 38  
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<400> 38  
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Pro Ser

<210> 39  
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Cys

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<220>  
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Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly Tyr  
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Cys Pro Thr  
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His Pro Leu Thr Cys  
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<210> 47  
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<400> 47

Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu  
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Thr Cys

<210> 48  
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 signalling molecule

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 Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro  
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Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr  
 20 25 30

Pro Ile Leu Pro Gln  
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<210> 49  
 <211> 10  
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 signalling molecule

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<210> 51

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<400> 51  
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<210> 53  
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<210> 54  
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Leu Gln Gly Val Val Pro  
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<210> 55

<211> 5  
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pdb/1DL6/1DL6-A

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<210> 56  
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pdb/1QMH/1QMH-A

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<210> 57  
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pdb/1QMH/1QMH-A

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<210> 58  
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 Leu Gln Lys Leu Leu  
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<210> 67  
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Leu Gln Lys Leu Leu Pro Glu Ala Pro  
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<210> 68  
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Pro Thr Leu Pro  
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<210> 69  
<211> 5  
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Leu Gln Pro Thr Leu  
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<210> 70  
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<210> 71  
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pdb/1VCB/1VCB-A

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<210> 72  
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pdb/1CQK/1CQK-A

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<210> 73  
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pdb/1CQK/1CQK-A

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<210> 74  
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pdb/1CQK/1CQK-A

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<210> 75  
<211> 4  
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<210> 76  
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<210> 77  
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<210> 78  
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pdb/1R2A/1R2A-A

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Leu Thr Glu Leu Leu  
1 5

<210> 79  
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<210> 80  
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<210> 81  
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pdb/1RLQ/1RLQ-R; swissnew/P01229/LSHB HUMAN

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<210> 82  
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Leu Pro Gly Leu  
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<210> 83  
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<212> PRT  
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pdb/1GJS/1GJS-A

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Leu Ala Ala Leu  
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<210> 84  
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<212> PRT  
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pdb/1GJS/1GJS-A

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Leu Ala Ala Leu Pro  
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<210> 85  
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pdb/1GBR/1GBR-B

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Pro Lys Leu Pro  
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<210> 86  
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pdb/1A78/1A78-A

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Val Leu Pro Ser Ile Pro

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<210> 87  
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 pdb/1FZV/1FZV-A

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 Met Leu Pro Ala Val Pro  
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<210> 88  
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<210> 89  
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<210> 91  
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pdb/1PRX/1PRX-A

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Pro Thr Ile Pro  
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pdb/1PRX/1PRX-A

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<400> 94



Pro Gly Phe Pro  
1

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pdb/1GER/1GER-A

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1 5 10 15

Cys

<210> 98  
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<221> MISC

<222> (2)

<223> The 'Xaa' at position 2 indicates an unknown amino acid

<400> 98

Met Xaa Arg Val

1

<210> 99

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI126906

<400> 99

Ile Thr Arg Val Met Gln Gly Val Ile Pro Ala Leu Pro Gln Val Val

1

5

10

15

Cys

<210> 100

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI221581

<400> 100

Met Thr Arg Val Leu Gln Val Val Leu Leu Ala Leu Pro Gln Leu Val

1

5

10

15

<210> 101

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.42246.3

<400> 101

Lys Val Ile Gln Gly Ser Leu Asp Ser Leu Pro Gln Ala Val

```
<210> 102
<211> 4
<212> PRT
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Mm.42246.3

```
<400> 102
Leu Asp Ser Leu
1
```

```
<210> 103
<211> 11
<212> PRT
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Mm.22430.1

```
<400> 103
Val  Leu  Gln  Ala  Ile  Leu  Pro  Ser  Ala  Pro  Gln
   1             5             10
```

```
<210> 104
<211> 5
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: Mm.22430.1
```

```
<400> 104
Leu Gln Ala Ile Leu
  1                      5
```

```
<210> 105
<211> 4
<212> PRT
<213> Artificial Sequence
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```
<220>
<223> Description of Artificial Sequence: Mm.22430.1
```

<400> 105  
Pro Ser Ala Pro  
1

<210> 106  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 106  
Lys Val Leu Gln Gly Arg Leu Pro Ala Val Ala Gln Ala Val  
1 5 10

<210> 107  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 107  
Leu Pro Ala Val  
1

<210> 108  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 108  
Leu Val Gln Lys Val Val Pro Met Leu Pro Arg Leu Leu Cys  
1 5 10

<210> 109  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 109  
Leu Pro Arg Leu  
1

<210> 110  
<211> 4  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.129320.2

<400> 110

Pro Met Leu Pro

1

<210> 111

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.22430.1

<400> 111

Pro Ser Ala Pro Gln

1

5

<210> 112

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: P20155

<400> 112

Leu Pro Gly Cys Pro Arg His Phe Asn Pro Val

1

5

10

<210> 113

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Rn.2337.1

<400> 113

Leu Val Gly Cys Pro Arg Asp Tyr Asp Pro Val

1

5

10

<210> 114

<211> 4

<212> PRT

<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Rn.2337.1  
  
 <400> 114  
 Leu Val Gly Cys  
   1  
  
 <210> 115  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Hs.297775.1  
  
 <400> 115  
 Pro Gly Cys Pro Arg Gly  
   1                  5  
  
 <210> 116  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Mm.1359.1  
  
 <400> 116  
 Leu Pro Gly Cys Pro  
   1                  5  
  
 <210> 117  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       sptrembl/056177/056177  
  
  
 <400> 117  
 Val Leu Pro Ala Ala Pro  
   1                  5  
  
 <210> 118  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 118  
Leu Ala Gly Thr Ile Pro Ala Thr Pro  
1 5

<210> 119  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 119  
Pro Ala Thr Pro  
1

<210> 120  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9IYZ3/Q9IYZ3

<400> 120  
Gly Leu Leu Pro Cys Leu Pro  
1 5

<210> 121  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 121  
Pro Gly Ala Pro  
1

<210> 122  
<211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 122  
Leu Pro Gln Arg Pro Arg Gly Pro Asn Pro  
1 5 10

<210> 123  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 123  
Pro Arg Gly Pro  
1

<210> 124  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.303116.2

<400> 124  
Gly Cys Pro Arg  
1

<210> 125  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1DU3/1DU3-A

<400> 125  
Gly Cys Pro Arg Gly Met  
1 5

<210> 126  
<211> 4



<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1BIO/1BIO  
  
 <400> 126  
 Leu Gln His Val  
 1  
  
 <210> 127  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
 pdb/1FL7/1FL7-B  
  
 <400> 127  
 Val Pro Gly Cys  
 1  
  
 <210> 128  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
 pdb/1HR6/1HR6-A  
  
 <400> 128  
 Cys Pro Arg Gly  
 1  
  
 <210> 129  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1H6/1HR6-A  
  
 <400> 129  
 Leu Lys Gly Cys  
 1  
  
 <210> 130  
 <211> 4  
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 130

Pro Pro Gly Pro

1

<210> 131

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 131

Leu Pro Gly Cys Pro Arg Glu Val

1

5

<210> 132

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 132

Cys Pro Arg Glu

1

<210> 133

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 133

Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val

1

5

10

15

Cys

<210> 134

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 134

Met Met Arg Val  
1

<210> 135

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 135

Val Leu Pro Pro Leu Pro  
1 5

<210> 136

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 136

Val Leu Pro Pro Leu Pro Gln  
1 5

<210> 137

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 137

Ala Val Leu Pro Pro Leu Pro  
1 5

<210> 138

<211> 8

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 138  
Ala Val Leu Pro Pro Leu Pro Gln  
1 5

<210> 139  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 139  
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Val Pro Gln Val Val  
1 5 10 15

Cys

<210> 140  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 140  
Leu Gln Ala Gly  
1

<210> 141  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 141

Val Leu Pro Pro Val Pro  
1 5

<210> 142  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 142  
Val Leu Pro Pro Val Pro Gln  
1 5

<210> 143  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 143  
Ala Val Leu Pro Pro Val Pro  
1 5

<210> 144  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 144  
Ala Val Leu Pro Pro Val Pro Gln  
1 5

<210> 145  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 145  
Met Thr Arg Asp  
1

<210> 146  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 146  
Gln Asp Val Cys  
1

<210> 147  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 147  
Ile Pro Gly Cys  
1

<210> 148  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9Z284/Q9Z284

<400> 148  
Pro Ala Leu Pro Ser  
1 5

<210> 149  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 149  
Leu Pro Gly Gly Pro Arg  
1 5

<210> 150  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 150  
Leu Pro Gly Gly  
1

<210> 151  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 151  
Gly Gly Pro Arg  
1

<210> 152  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 152  
Leu Gln Arg Gly  
1

<210> 153  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: XP\_028754  
  
 <400> 153  
 Leu Gln Arg Gly Val  
   1                  5  
  
 <210> 154  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: XP\_028754  
  
 <400> 154  
 Leu Gly Gln Leu  
   1  
  
 <210> 155  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: SignalP (CBS)  
  
 <400> 155  
 Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro  
   1                  5                  10  
  
 <210> 156  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: HLA molecule  
       type I (A\_0201)  
  
 <400> 156  
 Val Leu Gln Gly Val Leu Pro Ala Leu  
   1                  5  
  
 <210> 157  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>



<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 157  
Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5

<210> 158  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 158  
Val Leu Pro Ala Leu Pro Gln Val Val  
1 5

<210> 159  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 159  
Arg Leu Pro Gly Cys Pro Arg Gly Val  
1 5

<210> 160  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 160  
Thr Met Thr Arg Val Leu Gln Gly Val  
1 5

<210> 161  
<211> 15

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: MHC II (H2-Ak  
15-mers)

<400> 161  
Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu  
1 5 10 15

<210> 162  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: MHC II (H2-Ak  
15-mers)

<400> 162  
Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val  
1 5 10 15

<210> 163  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0101  
15-mers

<400> 163  
Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser  
1 5 10 15

<210> 164  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0101  
15-mers

<400> 164  
Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

<210> 165  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0101  
15-mers

<400> 165  
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr  
1 5 10 15

<210> 166  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0301  
(DR17) 15-mers

<400> 166  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5 10 15

<210> 167  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0301  
(DR17) 15-mers

<400> 167  
Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val  
1 5 10 15

<210> 168  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 168

Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 169  
<211> 35  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-62  
peptide

<400> 169  
Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro  
1 5 10 15  
Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu  
20 25 30

Ser Cys Gln  
35

<210> 170  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-67  
peptide

<400> 170  
Cys Pro Arg Gly Val Asn Pro  
1 5

<210> 171  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-70  
peptide

<400> 171  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln  
1 5 10

<210> 172

<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-75  
peptide

<400> 172  
Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly  
1 5 10 15

Pro Cys

<210> 173  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 173  
Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 174  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-71  
peptide

<400> 174  
Met Thr Arg Val Leu Pro Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 175  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF peptide

<400> 175

Cys Arg Gly Val Asn Pro Val Val Ser  
1 5

B2  
come